204.2 - Optical Properties

See also: Table 204.1 - Molecular Absorption (film, filter, solid, and solution forms)

For wavelength reference SRMs see: Table 207.4 Optoelectronics (solid forms)

SRM 936a has been discontinued. SRM 2943 Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission can be used as an alternative for applications using a cuvette-type sample format. See Table 204.2 (below) for related materials.

For further information see SP 260-64

Specular Spectral Reflectance - These SRMs are intended for calibrating the reflectance scale of integrating sphere reflectometers used to evaluate materials for solar energy collectors and to calibrate reflectometers used in evaluating the appearance of polished metals and metal-plated objects.

SRMs 2011, 2013, 2015, 2017 and 2021 are now being supported by Calibration Service (Service No. 38060S). Click here for further information: http://www.nist.gov/calibrations/

For further information see SP 260-79 and SP 260-75.

Infrared Reflectance (solid form)
Optical Rotation (powder form) - SRM 17f is intended for calibrating or checking polarimetric apparatus. In aqueous solution, the optical rotation of SRM 17f is value assigned at four wavelengths.

Photography (chart form) - SRM 1010a is used to test the resolving power of cameras or of whole microcopying systems. It consists of 5 charts printed photographically on paper, that have 26 high-contrast, 5-line patterns ranging in spatial frequency of 1 mm^{-1} to 18 mm^{-1}.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	17f	1010a	1928	1929	1932	1934	2036	2241	2242a	2244	2245	2246	2940a	2941a
Description	Sucrose Optical Rotation	Microcopy Resolution Test Charts	Infrared Specular High Reflectance Standard (Nominal Diameter 51 mm)	Infrared Specular High Reflectance Standard (Nominal Diameter 25 mm)	Fluorescein Solution	Fluorescent Dyes for Quantitative Flow Cytometry (Visible Spectral Range)	Near Infrared Wavelength/Wavenumber Reflection Standard	Relative Intensity Correction Standard for Raman Spectroscopy: 785 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 532 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 1064 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 633 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 830 nm Excitation	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Orange Emission	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Green Emission
Unit Size	(60 g)	(set (5))	(disk)	(disk)	(3 x 2 mL)	(4 ampoules x 1 each level)	(each)	(each)	(each)	(each)	(each)	(each)	(solid glass cuvette)	(solid glass cuvette)

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

204.2 - Optical Properties

See also: Table 204.1 - Molecular Absorption (film, filter, solid, and solution forms)

For wavelength reference SRMs see: Table 207.4 Optoelectronics (solid forms)

SRM 936a has been discontinued. SRM 2943 Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission can be used as an alternative for applications using a cuvette-type sample format. See Table 204.2 (below) for related materials.

For further information see SP 260-64.

Specular Spectral Reflectance - These SRMs are intended for calibrating the reflectance scale of integrating sphere reflectometers used to evaluate materials for solar energy collectors and to calibrate reflectometers used in evaluating the appearance of polished metals and metal-plated objects.

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For further information see SP 260-79 and SP 260-75.

Infrared Reflectance (solid form)
Optical Rotation (powder form) - SRM 17f is intended for calibrating or checking polarimetric apparatus. In aqueous solution, the optical rotation of SRM 17f is value assigned at four wavelengths.

Photography (chart form) - SRM 1010a is used to test the resolving power of cameras or of whole microcopying systems. It consists of 5 charts printed photographically on paper, that have 26 high-contrast, 5-line patterns ranging in spatial frequency of 1 mm^{-1} to 18 mm^{-1}.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

2942	2943	2944
Relative Intensity Correction Standard for Fluorescence Spectroscopy: Ultraviolet Emission	**Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission**	**Relative Intensity Correction Standard for Fluorescence Spectroscopy: Red Emission**
(each(12.5 x 12.5 x 45)mm)	**(each(12.5 x 12.5 x 45)mm)**	**(each(12.5 x 12.5 x 45)mm)**

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

204.2 - Optical Properties

See also: Table 204.1 - Molecular Absorption (film, filter, solid, and solution forms)

For wavelength reference SRMs see: Table 207.4 Optoelectronics (solid forms)

SRM 936a has been discontinued. SRM 2943 Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission can be used as an alternative for applications using a cuvette-type sample format. See Table 204.2 (below) for related materials.

For further information see SP 260-64

Specular Spectral Reflectance - These SRMs are intended for calibrating the reflectance scale of integrating sphere reflectometers used to evaluate materials for solar energy collectors and to calibrate reflectometers used in evaluating the appearance of polished metals and metal-plated objects.

SRMs 2011, 2013, 2015, 2017 and 2021 are now being supported by Calibration Service (Service No. 38060S). Click here for further information: http://www.nist.gov/calibrations/

For further information see SP 260-79 and SP 260-75

Infrared Reflectance (solid form)
Optical Rotation (powder form) - SRM 17f is intended for calibrating or checking polarimetric apparatus. In aqueous solution, the optical rotation of SRM 17f is value assigned at four wavelengths.

Photography (chart form) - SRM 1010a is used to test the resolving power of cameras or of whole microcopying systems. It consists of 5 charts printed photographically on paper, that have 26 high-contrast, 5-line patterns ranging in spatial frequency of 1 mm^{-1} to 18 mm^{-1}.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

204.2(1)- Fluorescence and Raman Spectroscopy

SRM	1932	1934	2241	2242a	2244	2245	2246	2940a	2941a	2942	2943	2944
Description	Fluorescein Solution	Fluorescent Dyes for Quantitative Flow Cytometry (Visible Spectral Range)	Relative Intensity Correction Standard for Raman Spectroscopy: 785 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 532 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 1064 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 633 nm Excitation	Relative Intensity Correction Standard for Raman Spectroscopy: 830 nm Excitation	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Orange Emission	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Green Emission	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Ultraviolet Emission	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission	Relative Intensity Correction Standard for Fluorescence Spectroscopy: Red Emission
Unit Size	(3 x 2 mL)	(4 ampoules x 1 each level)	(each)	(each)	(each)	(each)	(each)	(solid glass cuvette)	(solid glass cuvette)	(each(12.5 x 12.5 x 45)mm)	(each(12.5 x 12.5 x 45)mm)	(each(12.5 x 12.5 x 45)mm)
Wavelength Range (nm)	488 to 491	405, 488 to 491, 532, 652	785	532	1064	632.8	830	500 to 800	450 to 650	320 to 430	350 to 640	530 to 830

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

204.2 - Optical Properties

See also: Table 204.1 - Molecular Absorption (film, filter, solid, and solution forms)

For wavelength reference SRMs see: Table 207.4 Optoelectronics (solid forms)

SRM 936a has been discontinued. SRM 2943 Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission can be used as an alternative for applications using a cuvette-type sample format. See Table 204.2 (below) for related materials.

For further information see SP 260-64.

Specular Spectral Reflectance - These SRMs are intended for calibrating the reflectance scale of integrating sphere reflectometers used to evaluate materials for solar energy collectors and to calibrate reflectometers used in evaluating the appearance of polished metals and metal-plated objects.

SRMs 2011, 2013, 2015, 2017 and 2021 are now being supported by Calibration Service (Service No. 38060S). Click here for further information: http://www.nist.gov/calibrations/

For further information see SP 260-79 and SP 260-75.

Infrared Reflectance (solid form)
Optical Rotation (powder form) - SRM 17f is intended for calibrating or checking polarimetric apparatus. In aqueous solution, the optical rotation of SRM 17f is value assigned at four wavelengths.

Photography (chart form) - SRM 1010a is used to test the resolving power of cameras or of whole microcopying systems. It consists of 5 charts printed photographically on paper, that have 26 high-contrast, 5-line patterns ranging in spatial frequency of 1 mm^{-1} to 18 mm^{-1}.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

204.2(3)- Infrared Reflectance (solid form)

SRM	2036
Description	Near Infrared Wavelength/Wavenumber Reflection Standard
Unit Size	(each)
Infrared Reflectance (solid form)	
Wavelength Range (nm)	975 to 1946

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

204.2 - Optical Properties

See also: Table 204.1 - Molecular Absorption (film, filter, solid, and solution forms)

For wavelength reference SRMs see: Table 207.4 Optoelectronics (solid forms)

SRM 936a has been discontinued. SRM 2943 Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission can be used as an alternative for applications using a cuvette-type sample format. See Table 204.2 (below) for related materials.

For further information see SP 260-64.

Specular Spectral Reflectance - These SRMs are intended for calibrating the reflectance scale of integrating sphere reflectometers used to evaluate materials for solar energy collectors and to calibrate reflectometers used in evaluating the appearance of polished metals and metal-plated objects.

SRMs 2011, 2013, 2015, 2017 and 2021 are now being supported by Calibration Service (Service No. 38060S). Click here for further information: http://www.nist.gov/calibrations/

For further information see SP 260-79 and SP 260-75.

Infrared Reflectance (solid form)
Optical Rotation (powder form) - SRM 17f is intended for calibrating or checking polarimetric apparatus. In aqueous solution, the optical rotation of SRM 17f is value assigned at four wavelengths.

Photography (chart form) - SRM 1010a is used to test the resolving power of cameras or of whole microcopying systems. It consists of 5 charts printed photographically on paper, that have 26 high-contrast, 5-line patterns ranging in spatial frequency of 1 mm^{-1} to 18 mm^{-1}.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

204.2(4)- Optical Rotation (powder form)

SRM	17f
Description	Sucrose Optical Rotation
Unit Size	(60 g)
Optical Rotation (in mrad) 3/4 Aqueous Solution Wavelength (100 mm cell)	
546.2271 nm	*355.68*
589.4400 nm	*302.03*
632.9914 nm	*259.51*
882.60 nm	*129.41*

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only

204.2 - Optical Properties

See also: Table 204.1 - Molecular Absorption (film, filter, solid, and solution forms)

For wavelength reference SRMs see: Table 207.4 Optoelectronics (solid forms)

SRM 936a has been discontinued. SRM 2943 Relative Intensity Correction Standard for Fluorescence Spectroscopy: Blue Emission can be used as an alternative for applications using a cuvette-type sample format. See Table 204.2 (below) for related materials.

For further information see SP 260-64.

Specular Spectral Reflectance - These SRMs are intended for calibrating the reflectance scale of integrating sphere reflectometers used to evaluate materials for solar energy collectors and to calibrate reflectometers used in evaluating the appearance of polished metals and metal-plated objects.

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For further information see SP 260-79 and SP 260-75.

Infrared Reflectance (solid form)
Optical Rotation (powder form) - SRM 17f is intended for calibrating or checking polarimetric apparatus. In aqueous solution, the optical rotation of SRM 17f is value assigned at four wavelengths.

Photography (chart form) - SRM 1010a is used to test the resolving power of cameras or of whole microcopying systems. It consists of 5 charts printed photographically on paper, that have 26 high-contrast, 5-line patterns ranging in spatial frequency of 1 mm^{-1} to 18 mm^{-1}.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

204.2(5)- Photography (chart form)

SRM	1010a
Description	Microcopy Resolution Test Charts
Unit Size	(set (5))

- Certified values are normal font
- Reference values are italicized
- Values in parentheses are for information only